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Docket No. PD-00-452 (BOE 0215 PA)

REMARKS

Applicants wish to thank the Examiner for considering the present application. In the Final Office Action dated July 27, 2005, Claims 1, 7, 9-15, and 22-28 are pending in the application. Applicants respectfully request the Examiner to reconsider the rejections in view of the amendments above.

Claims 1, 12, 13, 22, and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* (4,873,681) in view of *Blackburn* (4,164,650). Applicants respectfully traverse.

Claim 1 reflects that the control circuit controls more than one tunable laser and the tunable center wavelength, and that it also controls more than one tunable optical bandpass filter so that the control circuit couples at least one input signal of the plurality of input signals to at least one of the plurality of respective electrical output signals and couples more than one of the plurality of input signals to only one of the plurality of respective electrical output signals. That is, the control circuit of the present application provides advantageous properties that any input data signal can be coupled to one or more output data signals, and one or more input data signals can be coupled to a single output data signal. These properties, which are not illustrated in the *Arthurs* reference, are enabled by requiring the output optical-to-electrical converters to incorporate a tunable receiver. Support for these claim amendments may be found in various places of the specification including paragraphs 35 and 36. Note that paragraph 35 explicitly states the important requirement that when coupling multiple input signals to a single output signal, "attention must be paid to the relative timing of the signals to avoid any 'collisions' between the multiple signals passing through the same filter."

The Examiner correctly pointed out that the *Arthurs* reference does mention the use of tunable receivers as well as fixed-wavelength receivers. However, the *Arthurs* reference clearly states, specifically in Figures 1 and 4 as well as Claim 1 (lines 14-16), that the tunable receivers are only utilized in the "second optical network for transmitting said status information from said output ports to said input ports," not the data "transport" network. This same type of statement is repeated in Claim 4 (lines 42-44), Claim 6 (lines 17-19), Claim 8 (lines 61-63), Claim 9 (lines 24-26). At the same time, *Arthurs et al.* also explicitly show in Figures 1 and 3, and state repeatedly (see Claims 3, 4, 8, and 11) that the output ports contain a fixed-wavelength optical receiver. The critical point is that *Arthurs et al.* were obviously aware of the availability of tunable receivers, but they did not teach the advantageous utilization of tunable receivers in the data transport network.

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The Examiner points to the *Blackburn* reference for teaching a tunable bandpass filter instead of a fixed bandpass filter in order to accommodate wavelength shifts caused by temperature changes. Applicants agree that a tunable bandpass filter is set forth in the *Blackburn* reference. However, the tunable reference is used for compensating for temperature changes. The input signal is generally fixed but drifts due to temperature changes. However, the *Blackburn* reference does not teach or suggest the use of a router. The present application is directed to a router circuit. As recited in claim 1, the router circuit includes a control circuit that selects a respective programmed wavelength in response to the plurality of bandpass center wavelengths. The control circuit controls the tunable lasers and the respective tunable center wavelengths so that the control circuit couples at least a first input signal of the plurality of input signals to at least one of the plurality of respective electrical output signals. That is, the control circuit controls both the center wavelength and the tunable laser wavelength so that the routing function may be performed. Thus, the combination of *Arthurs* and *Blackburn* is not taught or suggested in either reference. The *Blackburn* reference has nothing to do with routing and controlling both an input and an output. The *Blackburn* reference merely compensates the generally fixed output for slight changes due to temperature. As mentioned above, the *Arthurs* reference also does not provide a control circuit that controls a tunable laser and the center wavelength of the filter. Thus, substantial deficiencies exist in both of the references and also in the combination of references. Applicants also respectfully submit that the Examiner is forming a hindsight reconstruction trying to piece-meal the invention together. However, there is no teaching, either expressly or implicitly, in either of the references to make such a combination. As pointed out above in the *Arthurs* reference, a teaching away from tunable receivers is set forth. Therefore, Applicants respectfully request the Examiner to reconsider the rejection of claim 1.

Claims 12 and 13 depend from claim 1 and are also believed to be allowable for the same reasons set forth above.

Claim 22 is a method claim that is similar to claim 1 in that selecting programmed wavelengths for a plurality of tunable lasers and bandpass center wavelengths for a plurality of bandpass filters is set forth. The step of controlling at least one tunable laser and the tunable laser center wavelength so that at least the first input signal of the plurality of input signals is coupled to at least one of the plurality of respective electrical output signals is also set forth. These limitations are similar to those in claim 1 and therefore claim 22 is believed to be allowable for the same reasons set forth above.

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Claim 25 depends from claim 22 and is also believed to be allowable for the same reasons set forth above.

Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Blackburn* in further view of *Kogelnick* (4,787,693).

Applicants respectfully submit that the *Kogelnick* reference does not teach or suggest the operation of claim 1. Applicants therefore respectfully request the Examiner to reconsider the rejection of claim 7 as well.

Claims 9 and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Blackburn* as applied to claim 1 above, in further view of *Bailey* (6,470,036).

Claim 9 depends from claim 1 while claim 28 depends from claim 9. Applicants respectfully submit that the *Bailey* reference does not teach or suggest the elements missing from both the *Arthurs* reference and the *Blackburn* reference. Therefore, Applicants respectfully request the Examiner to reconsider this rejection as well.

Claims 10 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Blackburn* as applied to claim 1 above, in further view of *Nishihara* (6,512,616) and *Sotom* (5,896,212).

Claims 10 and 11 depend from claims 1 and 10, respectively. Applicants respectfully submit that neither of the two references set forth the missing elements of claim 1. Therefore, claims 10 and 11 are also believed to be allowable for the same reasons set forth above.

Claims 14 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Blackburn* as applied to claim 1 above, in further view of *Kintis* (5,661,582).

Claims 14 and 15 ultimately depend from claim 1. The *Kintis* reference also does not teach or suggest the missing elements or the combination from the *Arthurs* and *Blackburn* references described above. The *Kintis* reference is extremely complex, involving optical amplifiers and external modulators. The combination set forth in claim 1 is much simpler than that set forth in the *Kintis* reference. Also, the *Kintis* reference does not teach or suggest that a control circuit couples the first signal of the plurality of input signals to more than one of the plurality of electrical output signals and couples more than one of the plurality of input signals to only one of the respective electrical output signals. The *Kintis* reference teaches that bandpass filters have only one non-interfering bandpass frequency selected. Applicants therefore respectfully request the Examiner to reconsider the rejection of claims 14 and 15 as well.

Claims 23 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Nishihara*. As mentioned above, the *Nishihara* reference also does not teach or suggest the elements missing from Claim 22 which are similar to those of Claim 1.

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Applicants therefore respectfully request the Examiner to reconsider the rejections of Claims 22 and 23.

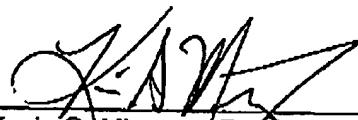
Claims 26 and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Arthurs* in view of *Blackburn* as applied to claims 1 and 25, respectively, above, and further in view of *Tada* ("Design Consideration on a DBR-Laser Transmitter for Fast Frequency-Switching in an Optical FDM Cross-Connect System").

Claims 26 and 27 depend, respectively, from claims 1 and 25. Each of the claims are similar in terms of content. The *Tada* reference also does not teach or suggest the elements missing from the *Arthurs* and *Blackburn* references. Therefore, Applicants respectfully request the Examiner to reconsider this rejection as well.

In light of the above amendments and remarks, Applicants submit that all objections and rejections are now overcome. Applicants have added no new material to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments which would place the application in better condition for allowance, he is respectfully requested to call the undersigned attorney.

Please charge any fees required in the filing of this amendment to Deposit Account No. 50-0476.

Respectfully submitted,



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